ence and technology. This form of national defense is being seriously neglected at a time when it has the most to offer.

Abba Eban said that he believed that both men and nations always acted in a rational fashion—once they had exhausted all other possibilities. In the political frenzy of changing our health care system, let us hope that the academic health science centers can continue to produce not only the next generation of health care professionals but also the science and technology that will ensure their effectiveness.

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A Crisis in Medical Education—One Person's Concern

SOME TIME AGO I applied to and gained entrance into medical school. Coming from a small midwestern town, I was inspired by several local physicians whose concern for their patients and for the community was well known. I progressed through medical school, entered residency and, ultimately, fellowship. During those years my goals changed somewhat, and I decided to focus my efforts in a limited area to become expert in at least one field of knowledge. Then I realized I wanted to teach medicine and sought a career in academics. Over the years my impressions of academia were molded and remolded by the prevalent academic climate. I saw changes and more changes and became increasingly aware of the pressures on academic physicians and medical centers. Now I am concerned that to survive, these faculty and these institutions are going to have to engage in activities that will compromise their ability to perform their academic mission. In fact, if current trends continue, we will legitimately be asking who is going to teach the medical students.

What pressures exist in academia that detract from the mission to teach medical students? The first is the obvious and much-discussed issue of research. Research is essential to all medical schools. It is the life blood of the institutions and is part of the teaching mission. It is a way of advancing knowledge and providing new and innovative methods for future implementation. The thrill of the research endeavor is often the glue that binds our best faculty to academia. Research itself is not the problem. The difficulty now confronting academic centers is the pursuit of research funding. To be competitive now, investigators must spend increasing time locating funding sources. In addition, they must stay at the critical edge of research to maintain their funding, requiring that they devote increasing efforts to their studies and less time and interest to instructing medical students. The quest for new knowledge has required the development of newer technologies that can unveil the secrets of the individual cell down to the molecular level. Acquiring and maintaining competence in these new methods has required a further commitment and has additionally compromised the time available for clinical instruction.

While the requirement for basic research demands increasing time and effort, medical schools are caught in even more compromising struggles: competing for patients and generating funding to underwrite the costs of their hospitals and clinics. With the expanding of managed care, many medical schools are in danger of losing their clinic populations to institutions that can provide care in a more cost-competitive way because they do not have to underwrite the costs of education. With more restricted public funding available for the poor, managed care contracts are being considered as a means of reducing the cost of caring for the underfunded. Academic centers may have to compete for their teaching patients. To compete effectively, the care of these patients may well have to be managed by highly trained physicians. These skilled physicians not only will have to provide the least costly care but will have to spend most of their time doing this. Senior clinicians may be required to spend more time in direct patient care, leaving less time for teaching.

The private patients with insurance who previously brought insurance payments to balance the ledgers of the academic centers are now fewer in number, and those who remain are often being diverted to other institutions. The competition for these patients is requiring academic centers to focus more on service and less on teaching.

If we have full-time researchers going in one direction and full-time clinicians in another, who will teach the medical students? It is clear they must be taught. With the current emphasis on containing costs, good clinical judgment, effective clinical decision making, and useful clinical algorithms will be at a premium. These processes must be taught. They will become as important to clinicians as the techniques of molecular biology are to basic researchers. Even more critical to the success of the entire medical industry is the notion that cost containment and good clinical judgment are opposite sides of the same coin.

Acknowledging that clinical skills and the process of clinical decision making will have to be taught, how will this be accomplished? Medical schools will have to support a certain number of dedicated teachers—persons who will be hired to ensure that the principles of clinical medicine are imparted to the students. For these faculty a system of rewards must be developed to allow for their promotion and tenure. But with rising costs and diminishing budgets, especially if Medicare teaching supplements are decreased by the federal government, these teachers will be in short supply. Perhaps the major consumers of physician supply such as large health maintenance organizations will have to endow additional positions for teaching faculty to establish a critical mass.

Other resources will have to be used. A highly selected group of practitioners may have to be awarded meaningful clinical titles that will serve to distinguish them and add to their prestige in the community. They in turn will teach a certain number of hours to assist in the training of future clinicians. Other honors, including fi-

nancial benefits, may have to be awarded these part-time clinician teachers. What should be different about some of these clinician teachers from those seen in some of the systems in place today will be a more intense process of selection and a greater system of awards that allows for more prestige and greater distinction. Other resources may also have to be identified to obtain an adequate number of teachers, but the search must continue because future physicians and future patients will require that the best of clinical knowledge and experience be imparted from generation to generation to allow our children and our children's children to get the best medical care possible.

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EDITOR'S NOTE: *Dr Cesario received the 1993 Golden Apple Award presented by the California Medical Association to recognize exceptional physicians who have made a lifelong commitment to teaching.*